Appendix E

Nuclear, Biological, and Chemical Operations

The JTAGS equipment will survive NBC contamination and decontamination. Collective protection equipment is required, if available, for the selected system. Since JTAGS provided information is critical to TMD, it has been designed to withstand NBC contamination and decontamination to a level commensurate with theater command, control, communication, and intelligence (C3I) assets.

EQUIPMENT PROTECTION

E-1. All JTAGS equipment required for system operation and located outside of NBC protected areas, including unprotected shelter interiors, is fully operable and maintainable down to the replacement of line replaceable units by personnel wearing standard Army issue cold-weather and NBC protective clothing and equipment (MOPP IV). Consistent with the selected shelter capabilities, JTAGS has incorporated designs and resistive materials (e.g., chemical agent resistant coating) that reduce or prevent accumulation of NBC contamination and that withstand damaging effects of decontamination. JTAGS is decontaminable to negligible risk levels (0-33 less than 0.33 cGy/hr or one bar or lower reading on radiac set AN/PDR-27 or -77, and radiac set AN/VDR-2 on the chemical agent monitor (CAM)).

E-2. JTAGS has multiple components that are located external to the shelter. Even though the shelter is equipped with chemical protective equipment (CPE), external components will require maintenance or operator actions during missions that may include an NBC threat. The JTAGS system is able to continue its vital mission with personnel in NBC protective equipment as necessary. JTAGS is able to operate after such an attack without excessive requirements for decontamination or extraordinary precautions during decontamination.

DEFENSIVE OPERATIONS

E-3. NBC defense is critical in any conflict, but is particularly so whenever the opposing force has the capability to employ TBMs. To fight and win under NBC conditions requires an application of three fundamentals of NBC defense: contamination avoidance, protection, and decontamination.

CONTAMINATION AVOIDANCE

E-4. Avoidance addresses individual and/or unit measures taken to avoid or minimize NBC attacks and reduce the effects of the hazard. By taking

measures to avoid the effects of NBC attacks, the soldier can reduce his protective posture and decrease the likelihood and extent of decontamination.

NBC PROTECTION

E-5. NBC protection includes actions taken to physically counter the effects of the enemy's TBM capability and actions taken to maintain the health and morale of soldiers. NBC protection is divided into three broad areas: force, collective, and individual protection.

Force Protection

E-6. Force protection involves actions taken by the commander to reduce the vulnerability of the force to TBM attack. Success rests largely on the operational employment of NBC detectors and sensors with organic capabilities and from specialized NBC reconnaissance capability for baseline analysis, early warning, and agent identification.

Collective Protection

E-7. Collective protection provides a contamination-free environment for selected portions of the force by applying special filtration systems on vehicles and shelters. Collective protection is particularly valuable because it avoids the psychological and physiological burden of individual protection.

Individual Protection

E-8. Individual protection involves those actions taken by individuals to shield themselves from NBC effects in order to survive and continue the mission under NBC conditions. Individual protection is largely accomplished using MOPP gear, but will also include medical pretreatment measures taken to reduce the body's susceptibility to specific classes of chemical or biological agents or enable it to be more responsive.

DECONTAMINATION

E-9. The primary purposes of decontamination are to stop erosion of combat power and reduce casualties that may result in inadvertent exposure because of failure of protection. It is the reduction of the contamination hazard by removal or neutralization of hazardous levels of NBC contamination on personnel or equipment. FM 3-5, NBC Decontamination, provides detailed guidance on conducting decontamination operations.